Chelmsford Amateur Radio Society

Newsletter

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Next meeting: 5th Jan - 7.30pm, Oaklands Museum

'Meteor Detection using 2m Amateur Radio' - Peter Meadows, M0ZBU

Inside this issue:

Out with the old ....

.... in with the new!

Club Nets - Tuesdays 20:00h
Net Controller: TBD

#2 - GB3DA	12th January
#3 - GB3ER	19th January
#4 - 80m 3.756MHz	26th January
#5 - 160m 1.947MHz	n/a

Essex Ham Nets
Mondays 20:00h GB3DA

Contact details for the newsletter: editor@g0mwt.org.uk

Editorial

Hello again, and a Happy New Year to you all. Welcome to the latest edition of CARS Newsletter. Although I've never made one in my life, amongst the New Year's resolutions that could be made in some households, a good one would be to offer some help to the Society - in howsoever minor a form. Many hands make light work and, if volunteers could be found for some of the outside and other public events, it would help the organisers enormously. Please give it some thought. Talking of volunteers, a big thankyou from me to those who have contributed to this and the previous editions of the Newsletter. It is so nice to be able publish their efforts to inform and entertain the Society members.

This month sees the resumption of the "third Monday" Skills nights, the organisers having had a well-earned break for December. There will be the usual mix of activities, with the ever-popular Slim Jim antenna building and continuous tea/coffee and cakes/biscuits (is there a better reason for going along?)

Now, here's a thought: You hear a lot about wearable technology these days and during the Christmas period, many illuminated festive jumpers were seen. With conductive inks now available to make PCBs with a suitable printer, what if you combined conductive inks with a tattoo artist's skills, and subcutaneous implants like a pacemaker or a dog's microchipped ID tag? What could you theoretically realise with that? Scrolling callsign tattoos? Flashing heart shaped "Sharon 4 ever" tats?

How about a digital watch permanently attached to your wrist? The mind boggles… ***Ed.***

Dates for your diary

Please note, the dates may be subject to change...

5th Jan Club night	'Meteor Detection using 2m Amateur Radio' - Peter Meadows, M0ZBU
Sun. 10th January	80m AFS CW contest - 14:00—18:00 UTC
Thu. 14th January	Six week Foundation course begins. See www.g0mwt.org.uk/training Morse classes also start. See below.
Mon. 18th January	Skills Night at Danbury Village Hall
Sat & Sun 23rd & 24th January	SOS weekend at Marconi Sailing Club. Modes: SSB, HF, CW, DATA; Bands:160m, 40m, 20m, 30m, 15m, 2m & 70cm
Tue. 2nd February	Meeting - 'Satellites' - Steve Hedgecock, M0SHQ
Sun. 7th February	31st Canvey Island Radio & Electronics Rally, Long Road, Canvey, SS8 0JA
Mon. 15th February	Skills Night at Danbury Village Hall
Thu. 18th February	Foundation Course Exam at Danbury Village Hall
Tue. 1st March	Meeting - 'Planning Permission' - Peter Davies M0PSD
Tue. 5th April	Meeting - '2MT Writtle - The Birth of British Broadcasting' - Tim Wander, G6GUX
Sat. 23rd April	GX0MWT - Operating at Sandford Mill for International Marconi Day

CW Classes

After the Christmas break, Morse classes will be starting again on Thursday 14th January. Andy, G0IBN and Colin, M1OCN will be pleased to see you in the meeting room at 7p.m. at Danbury Village Hall.

If you have never tried CW, before Andy is the one to see. PC programmes for learning Morse code are fine, but there is no replacement for a face-to-face "CW Elmer," to assist you. If you just want to refresh your CW skills, Colin will help you in any way he can.

Come and join us - you will be made very welcome. A small charge is made for the evening, but refreshments are provided.

Contact details: see Chelmsford ARS web page CW page and course description or QTHR.

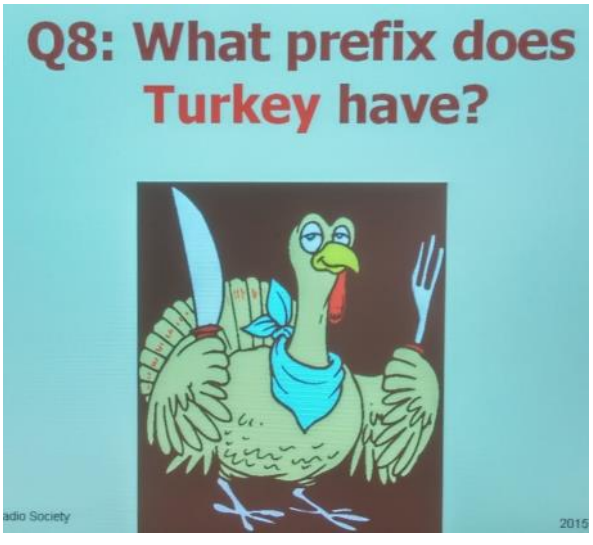
December Meeting: Xmas Quiz etc.

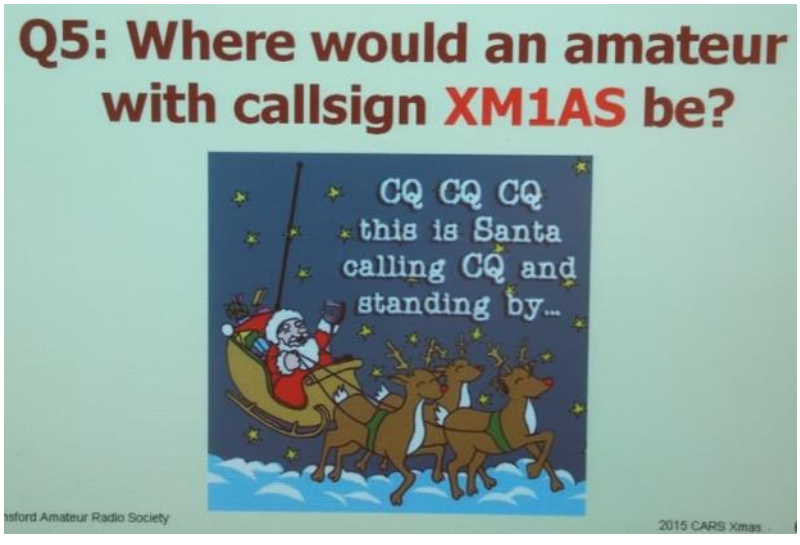
The December meeting was a first for me. Quite a few hardy souls ~~braved~~ enjoyed John, G8DET's 'Oldies but Goldies' quiz that was based upon a series of old and unknown electronic items, and Murray's Xmas Quiz was also quite fun.

The legendary mince pie mountain did not survive the onslaught for long and the stollen disappeared in short order. David and Myra, as ever, provided the tea and coffee to wash down the comestibles and Tony, G4YTG bashed out a couple of numbers on his electric Joanna.

John, G8DET recorded thanks to Colin Page, G0TRM for bringing Dave Bolwell, G3JCM who, in turn, brought his heated tray to supplement John's. Some 60 mince pies and a stollen were consumed during the pleasant Social evening.

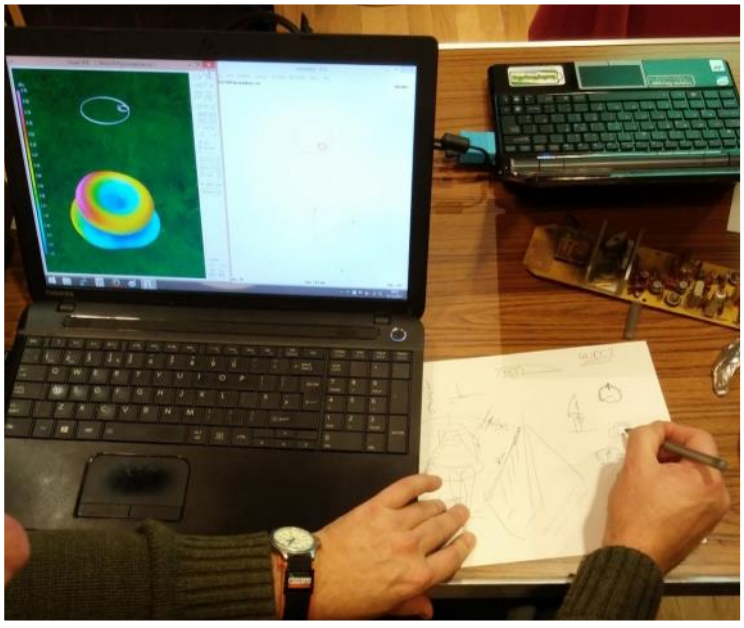
Murray's quiz was interesting and, for me, a bit embarrassing in my ignorance. A lot of geographically callsign related Xmas questions caused a bit of head scratching, although there were some smart@rses who knew some of the answers. I really must try harder… ***Ed.***





Splinter groups and impromptu lectures

Geoff Lovegrove, G7KLV had a nice splinter group meeting downstairs with the rack of Marconi receivers which he got going. I think they were designed to lock onto the reduced carrier from the sending TX; now no carrier is sent, they drifted a bit.



Keyboards abounded at this meeting. Not content with the mince pies, Andy, G7TKK was producing a multi–coloured doughnut (or would that be a cottage loaf?)

Thanks to John, G8DET for supplying some of the input for these pages.

Caption competition

Come on, then - let's have some suggestions!

The best (printable) ones will appear in the next issue.

What do you win? Only my admiration, but that's worth its weight in gold…

Ed.

Training

A question was raised at the AGM regarding visiting training sessions by club members who are already licensed, but who feel they might benefit from a refresher session or two.

This already takes place to an extent, and the training team have no objections to this, but must emphasise that it would be by ***arrangement only*** and with no participation whatsoever. Things that may be obvious to licence holders may differ from the strict syllabus the team work to.

So, if you want to sit in on some of the sessions, email Peter. It would be a good opportunity to refresh memories and keep up to date with any changes, as well as talking to potential new members in the tea/biscuit/Jaffa cake break.

Why single out Jaffa cakes? It so happens that some members have a particular weakness for this dubious confection and supplies are made available…

Exam Successes

Candidates simultaneously sat the Advanced, Intermediate and Foundation exams at Danbury Village Hall on Monday December 7th. All those who sat the Foundation and Intermediate, received indicative passes there and then, whilst those who sat the Advanced had to wait a while for the results.

One notable result was Kristian, M0SSK who sat the exam at short notice. He was sitting in on the training sessions as an observer when he found he could have passed, if the mock exam he took had been real. After a lot of last minute string pulling he sat, and passed, the Advanced!

(His pass had nothing whatsoever to do with Kristian's tendency to supply the Jaffa cakes. Honest, Guv!)

Brian, M6UHN popped up on the December 2m CARS net to say thankyou to all those who helped him whilst he was undertaking the course. Which was nice, of him, really, and Phil Dunnicliffe emailed with his thanks and news that he is now M0TXL. Congratulations to all!

For more details regarding the year's courses, contact Peter, M0PSD on training2016@g0mwt.org.uk

Training publicity - Can you help?

The 33rd CARS Foundation training course will start on Thursday, January 14 at Danbury Village Hall and will run over six Thursday evenings from 7-9pm.

There are still a few places available on the course, so if you know of anyone with an interest in radio why not suggest they contact Peter, M0PSD ***ASAP*** and book a place.

Are you active on Social Media such as Facebook or Twitter? If so, then why not help spread the word about the courses by posting a link to the CARS training page?

The CARS training manager, Peter Davies, M0PSD, can be contacted via 07747 130777

Email: training2016@g0mwt.org.uk Web: g0mwt.org.uk/training

And we make no apologies for repeating this message:

Morse Classes at Danbury

Morse classes will start again at Danbury Village Hall on Thursday, January 14, starting at 7pm, come and join our friendly class of cw enthusiasts

We cater for all aspects of CW from the beginner to the CW operator who wants to improve their CW skills.

As in life, you only get out what you put in, so, as a beginner, you must be prepared to spend 8 weeks of graft to learn the letters, figures and characters. To sign up for the Morse class, contact Andy, G0IBN. Tel: 01621 868347 or email: g0ibn@kersey1.freeserve.co.uk

We look forward to seeing you there.

Trevor, M5AKA

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*And, coincidentally and serendipitously, a nice little item submitted by Colin Wilson, M1OCN - **Ed.***

Another reason to learn CW (Morse)

Radcom had somewhat stolen my thunder on this article by a recent write up on the 'Pixie' - a QRP CW transceiver kit review. But, then again, this is a good thing as it bolsters my appeal for CARS Members who may have learnt CW 'Morse' in the past, but passed it off as old fashioned, or who may see it as a new challenge for 2016.

Alongside Andy Kersey, G0IBN, I am one of the 'Thursday evening CW trainers' at Danbury Village Hall. We have two classes running side by side. Andy supports those who are complete beginners, whilst I support those who need some help in progressing beyond 10 WPM.

Now back to my title for this article: CW allows us to use very low power 'QRP' in the order of 0.5 to 1 Watt and still have reliable contacts - well into Europe and beyond, with good conditions. An additional bonus is that this can all be achieved with a 'Pixie' kit, either ready built for around £10 to £15, or as a very straight forward kit in the region of only a few pounds. (*From Banggood.com—Ed.*)

These simple QRP CW transceivers are crystal controlled spot frequency oscillators that only use two transistors, one as the oscillator, the second as a RF drive in Tx or as a mixer in Rx. Along with a basic audio amplifier, a simple RF output filter completes the design. There is a superb 'pdf' available for down-load at: www.gqrp.com/the_sprat_pixie_file.pdf

All the designs, plus their history is available in a 18 page document. See also, the excellent write up in the January RadCom 2016 page 40.

There are a number of derivatives of this design, but please do not quote me on this…. it appears to stem from an original design by George Burt GM3OXX, who designed the 'FOXX' transceiver. This was followed by another, simpler, design by Oleg Borodin RV3GM known as the 'Micro-80' of which subsequent designs have evolved into the 'Pixie'. There are other designs available; one of which I am currently building two examples of; this is the 'RockMite' by Rex Harper, W1REX. This still has its roots in the original pixie concept, but has evolved to include a Iambic keyer based on a pre programmed 'pic' chip, a sidetone oscillator, auto 'RIT' function and refined output filtering.

It can be seen then that there are many options available, just Google or look on eBay for 'pixie qrp' and the choices will become clear.

(*Herewith, some links to kits available on Banggood.com - **Ed**. Super Rock Mite, Pixie, Super Pixie, Another Pixie, Another Super Pixie*)

So now you know that there are cheap and fun transceivers available, either ready built or very cheaply in kit form, what are you waiting for? Please join in the fun, challenge and sense of achievement to learn CW and operate these great radios. Of course you could (and why not?) use a commercial full power transceiver, but the fun of building and using these simple radios will be lost.

CW will take some effort and regular practise, but at the same time a real sense of achievement will be gained as various word per minute milestones are passed. I started out from zero to a satisfying 20 wpm with the help from Andy, G0IBN at the Danbury Thursday evening classes. I now have the additional satisfaction to put something back and promote CW myself.

I would also like to take the opportunity to promote the 'Essex CW Club' (www.essexcw.org.uk). I am currently introducing QRP and the Pixie in the 'QRP Corner' pages.

Danbury Classes are re starting in January, dates and venue details available in this issue, or from either the CARS or Essex CW websites.

Happy New Year and consider the CW challenge….

Colin Wilson, M1OCN

CLUB NETS.

Just a reminder that the first Club net of 2016 will be held on Tuesday January 12th via DA the 2M Danbury repeater. On the 19th it will be 70cm with ER repeater in use, with 80m on the 26th.

We are currently without a net controller for those dates, so would a volunteer like to step forward please? As regulars will know, it is customary to control for one month at a time; it was on that basis that Carl, G3PEM did it six times last year. However, if you would like to try just one evening on your favourite band, give me call and I will arrange it.

Happy New Year

Regards

Colin, G0TRM g0trm@g0mwt.org.uk

How to hear Tim Peake and SSTV from the ISS

UK astronaut Tim Peake launched to the International Space Station (ISS) on December 15 from Baikonur in Kazakhstan for the Principia mission that is expected to last until June 5, 2016.

In April 2014 while he was undergoing astronaut training in Houston, Texas, Tim took the opportunity to take the USA Technician amateur radio exam and he now holds the call sign KG5BVI. When he operates from the ISS he will use a special call sign issued by Ofcom - GB1SS.

History

The first Amateur Radio equipment was delivered to the International Space Station (ISS) in September 2000 and an Amateur Radio station was established on-board for use by Astronauts who are licenced Radio Amateurs. Commander William Shepherd, KD5GS, made the first Amateur contacts in November of that year and the first school contact took place on December 21, 2000, with students at Burbank School in Burbank, Illinois.

Most of the astronauts on the International Space Station are licenced Radio Amateurs and occasionally during their spare time they talk to other Radio Amateurs back on Earth. There is a special thrill in talking to an astronaut out in space!

What equipment do you need to hear the ISS?

Almost any 144 MHz FM rig will receive the ISS; you can even use a general coverage VHF scanner with an external antenna. As far as the antenna is concerned the simpler the better. My favourite is a ¼ wave ground plane as it has a high angle of radiation. I've found large 2m colinears don't work quite as well since the radiation pattern is concentrated at the horizon.

You can receive the ISS using a 2 metre hand-held outdoors with its helical antenna but a 1/4 wave whip will give far better results.

In the UK we use narrow 2.5 kHz deviation FM but the ISS transmits on 145.800 MHz with the wider 5 kHz deviation used in much of the world. Most rigs can be switched been wide and narrow deviation FM filters so select the wider filter. Hand-held rigs all seem to have a single wide filter fitted as standard.

ISS Amateur Stations

There are two amateur radio stations available to astronauts on the ISS.

The Russian Service Module has a dual-band Kenwood TM-D710 transceiver which replaced the older TM-D700 which had developed a fault. Four antennas are available, three of which are identical and each can support both transmit and receive operations on 2m, 70cm, L band and S band. They also support reception for the Russian Glisser TV system, which is used during spacewalks. The fourth antenna is a 2.5 m long vertical whip that can be used to support High Frequency (HF) operations although at the present time there is no amateur HF equipment.

The ESA Columbus Module has two Ericsson M-PA series FM 5 watt handheld radios, one for 145, and the other for 435 MHz, as well as the 2.4 GHz HamTV Digital Amateur Television Transmitter. Antennas are available for 145 and 435 MHz for the Ericsson handhelds; additionally, there are 1260 and 2400 MHz antennas for the HamTV system.

Much of the time the amateur equipment operates in "automatic mode". It can act as an AX.25 packet digipeater, voice repeater or transmit slow scan television (SSTV) pictures. Voice and SSTV transmissions take place on 145.800 MHz FM, and the AX.25 packet radio digipeater may be heard on 145.825 MHz FM.

The astronauts do not have much free time to operate amateur radio but, when they do, they usually operate split-frequency transmitting on 145.800 and listening on 145.200. If you are lucky enough to hear them call CQ simply activate your -600 kHz repeater shift to reply.

For safety reasons all amateur radio equipment is turned off during spacewalks or docking manoeuvres.

Samantha Cristoforetti, IZ0UDF with ISS HamTV transmitter

Tim Peake 2m contacts

Arrangements have been made for Tim Peake to use the Columbus module amateur radio station to contact pupils at several schools in the UK during his mission. The first of these will be with pupils at Sandringham School, St. Albans on Friday 8 January 2016 at 0847 UTC, as the ISS passes over the UK . As well as the voice downlink on 145.800 MHz FM this school contact will be the first to use the HamTV system which transmits Digital Amateur Television (DATV) on 2395.0 MHz from the space station.

The DATV will be received at a station established at Goonhilly by volunteers from AMSAT-UK and BATC. The signal from the 3.8m dish antenna will be streamed via the Internet at https://principia.ariss.org/live/
In addition to the Internet feed the DATV signal will also be received at the school by a specially developed mobile DATV station enabling the students to compare the picture received on a small dish mobile system with that of the 3.8m dish at Goonhilly.

Tim Peake, KG5BVI ISS amateur radio station equipment

Receiving Slow Scan TV

ISS SSTV image: Murray Hely, ZL3MH

A special Slow Scan Television (SSTV) transmission from the ISS to commemorate 15 years of amateur radio on the ISS is planned for mid-January. The transmission will be made from the amateur radio station in the Russian Service Module. It is likely to take place throughout a weekend on 145.800 MHz FM and the pictures, in PD120 mode, will be receivable using the free MMSSTV software.

When receiving SSTV I usually take a recording of the audio during the pass as well as decoding live with MMSSTV. This enables me to play back the recording at a later date and provides the option of changing the decode software parameters if needed.

Check the AMSAT-UK Web/Facebook/Twitter feeds for the date and time of the school contacts and the SSTV transmissions.

Doppler Shift

The International Space Station is traveling around the Earth at over 28,000 Km/h. This high speed makes radio signals appear to shift in frequency, a phenomenon called Doppler Shift. This Doppler shift will cause the ISS transmit frequency of 145.800 MHz to look as if it is 3.5 kHz higher in frequency, 145.8035,

when ISS is approaching your location.

During the 10 minute pass the frequency will move lower shifting a total of 7 kHz down to 145.7965 as the ISS goes out of range. To get maximum signal you ideally need a radio that tunes in 1 kHz or smaller steps to follow the shift but in practice acceptable results are obtained with the radio left on 145.800 MHz.

Links to track the ISS online can be found at http://amsat-uk.org/beginners/satellite-tracking/

Information on receiving ISS Slow Scan TV http://amsat-uk.org/beginners/iss-sstv/

AMSAT-UK http://amsat-uk.org/ Twitter https://twitter.com/AmsatUK

Facebook https://facebook.com/AmsatUK YouTube https://youtube.com/AmsatUK

Join AMSAT-UK http://amsat-uk.org/new-members/join-now/

Trevor, M5AKA

G4ZU Family Activation

The amateur radio callsign G4ZU fell silent in 2005 with the passing of renowned radio amateur Gordon "Dicky" Bird. Dick was responsible for the design of a number of innovative antennas such as the G4ZU MiniBeam, the Bow-and-Arrow Yagi and the Birdcage. His early designs were developed and published in the 1950s, and variants of these designs are still being built and used around the world today.

Gordon Bird, from a 1954 CQ Magazine

On Christmas Day 2015, the callsign G4ZU was activated for the first time in ten years by three generations of Dick's descendants, in a special family commemoration.

With the permission of the family and Ofcom, the callsign G4ZU had been transferred to grand-daughter Sarah, M6PSK's husband Pete, M0PSX for use as a club callsign for Essex Ham. Members of the Bird family gathered for the festive period, and Dick's son, Chris Bird was able to pass a seasonal greetings message to his daughter Sarah via the G4ZU callsign. Sarah, in turn then received a greetings message; her daughter (Dick's great-granddaughter), 8-year-old Kathryn, completing the four generation connection.

Kathryn Sipple (aged 8), Sarah, M6PSK and Chris Bird.

Sarah, M6PSK said: "It's great that the historic G4ZU callsign was active again in memory of Dick's passion for amateur radio – Certainly one for the Bird family scrapbook"

G4ZU Commemoration: www.sxham.uk/g4zu

Pete, M0PSX

DXCC - Did you miss it?

Oliver, M0WAG did. He missed all those contacts for his DXCC award!

The American CQ magazine held their CQ WORLD WIDE DX contest on the 28/29th November. The objective was for amateurs around the world to contact as many other amateurs in as many CQ zones and countries as possible. Good DX was available across all the bands as conditions were quite good.

Amongst the 161 countries contacted - in 58 zones - were Canada, USA, Rwanda, Cape Verde, Oman, Brazil, St Christophe and Nevis, Rodrigues Island, Bonaire, South Africa, UAE, Malawi, Japan and Malaya.

Andy, G0IBN, used Essex CW Club call, G4C, during the weekend, operating from his home QTH at Tollesbury. He was assisted by CARS members, Dean ,G4WQI, Steve, G4ZUL, and Rick, G3YEC.

It was a laid-back affair; we were never going to be winners with clubs around the world using powers of 1kW or more, with 80 foot towers. With 100W and Andy's two element quad working well on 10, 15, and 20m, and with the G7FEK on 40/80m, we made 610 contacts over the two days - 58 zones and 161 countries. It was a leisurely affair, with chats and coffee as required.

Contacts were very brief, typically 10 seconds! Callsign, followed by 599 14, the 14 being our CQ zone.

Band	QSOs	Pts	Zone	Country
3.5	84	128	9	30
7	56	77	8	27
14	261	371	15	39
21	143	203	13	35
28	71	146	13	30
Total	615	925	58	161

Score: 202,575

For those interested, the contest programme N1MM+ was used. You do not have to be a contester to get the DX, just able to read the callsign of the station and have your rig programmed to reply with:

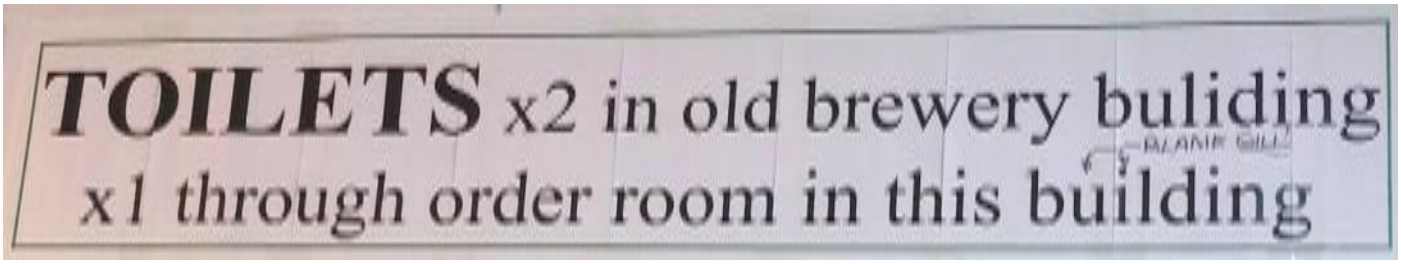
1. "G4XXX"(Your own callsign)
2. "G4XXX 599 14."

Have a listen next time. It's surprising how far you can get with low power if a station needs your point!

Andy, G0IBN

Dyslexia?

Absolutely nothing to do with radio at all (apart from the number of amateurs present) but your chairman and editor were at an event recently and were tickled by this sign on the wall, Everyone makes mistakes, but to have pointed out not only the wrong word, but the letter order as well, was the amusing bit. Now; what was it that some people can't organise in breweries?



Climate change & energy use

With the recent coverage that has been given to climate change conference, a thought has once again come to haunt me. We all have to use energy, unless we want to mark ourselves out as weirdo hermits, living in a cave and using compost toilets because, like it or not, just about everything we eat, drink, touch or depend on these days has been brought about by the combined use of fossil fuels - be it coal, gas or oil.

There have been many reminders recently about the dangers of climate change. Those people in Cumbria, York and Lancashire who have suffered from the December floods would, no doubt, be willing to lend an ear to the argument that things are getting worse. This abnormally warm winter is surely a sign.

I have long felt that we use too much energy in daily life and I do wonder about the impact of the hobby as well. Granted, there are not so many valve sets (hardly any, I guess) but the fact that every almost every shack has a PC (or two) running most of the time does make me wonder what effect digital everything has on this world. PC logging, reverse beacon searches, DSP radios etc. Routers, wireless extenders, Power-Line AV adaptors, those *massive* web servers that hold our data and power all our searches etc. All must take their toll.

Take the example of DAB radio. I have several radios in the house, most of which are used on FM and some of which run on batteries. I have torches and bicycle lights that get used fairly regularly and all the AA cells get moved around from item to item as they are gradually depleted. The portable radios operate at milliWatt level and down to as little as 0.8V/cell. With due regard for the danger of cell leakage, I can wring every last drop of energy out of those cells before I have to bin them. I have a Sony ICF7600 short wave radio that has a painfully sharp low voltage threshold; at about 1.1V/cell, the synthesiser becomes unstable, it browns out and the cells get pushed on to the bathroom or shed radios. There, they can be used for umpteen more weeks before they, too, finally give up the ghost. Compare this to a DAB radio that operates at, perhaps, several watts level. Running those on batteries would be wasteful and expensive, so mains is the only answer.

Now, what is the energy equation for FM vs. DAB? The (localised) DAB transmitters almost certainly use significantly less power that a large centrally located FM transmitter, but is that equation balanced out by the increase in National Grid power caused by the use of DAB “portables”? (It’s almost impossible to find a DAB radio that doesn’t include a mains adaptor as standard or rechargeable battery pack as an option). I guess, at the moment, there are not enough DAB radios to get a full picture. I would imagine they are still not very popular and that FM still rules. Owing to the frequently ropey reception and the digital breakup threshold, they are unpleasant to use in a number of situations and, in my opinion, are not yet fit for purpose. And that very much holds true in my house).

A new TV I bought recently cannot be turned off, except by switching it off at the wall. It is permanently on standby. That may be due to a timer function but, unless that is active, surely the thing should go off, rather than to standby?

Even writing this Newsletter—long stints at the PC keyboard, sifting and sorting content, moving, editing etc. It all takes time, and that time is measured in several tens of Watt hours at a stretch.

Has anyone out there in readerland got any views on this? ***Ed.***

(And take a look at Colin, M1OCN’s article on QRP in this newsletter...)

Teaser

This is an unusual paragraph. I'm curious - how quickly can you find out what is so unusual about it? It looks plain, so you would think nothing was wrong with it. In fact, nothing *is* wrong with it! It is still unusual though. Study it, think about it and you still may not find anything odd. But, if you work at it a bit, you might find out what it is.

Ed.

Heathkit returns!

I was looking at the RFCafe website recently and it was reported there that Heathkit had placed an ad in the December 2015 (so last *year*) edition of QST magazine.

The report said that the only RF based product at the moment is the Explorer Jr: TRF AM radio receiver kit. The product description is also reminiscent of Heathkit of old:

This radio rocks. (And rolls. News and sports work great too.) AM broadcast radio is the best band for learning about radio. AM has the most diverse collection of programs: News, sports, weather, talk, popular music. You can hear stations from farther away than with FM broadcast radio. On a cold winter evening you might hear stations from half-way across the continent. The circuit has been carefully designed and redesigned to maximize performance with a small number of parts.

Did you notice the wood? Beautiful home appliances and furnishings are not made of moulded or laser-cut plastic. They tastefully use natural or historic design materials like metal and wood. So does your Explorer Jr. This model's hardwood front panel is Afro-Asian Padauk, hand-milled and rubbed with a special sealing oil at our factory in California before we ship it to help preserve its lustre for decades. (We all live in a perpetual ocean of disposable plastic objects. When's the last time any company had the courage and taste to design a radio of wood?)

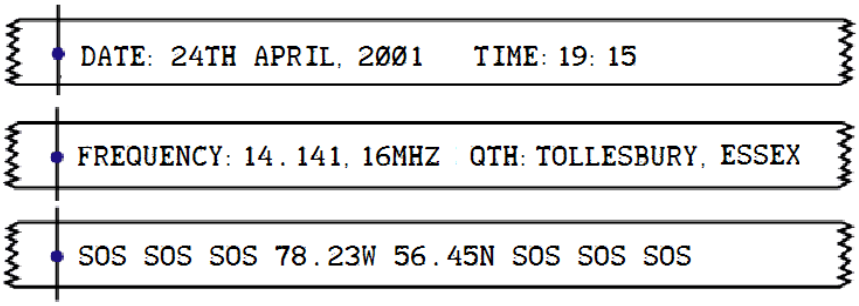
The metals are aluminium and stainless steel. The tuning knob is custom-machined for you. The beautiful black case is solid anodized aluminium. We want you, or the person you give it to as a gift, to enjoy this radio for another 50 years.

There you go, Ray - Just the thing to listen to those Pirates on! - ***Ed.***

SOS SOS SOS

I could not believe it!

Having spent 11 years as a Royal Navy Telegraphist I had never received a REAL distress message. I had listened to distress messages in operation miles away from my ships position, on the International Distress frequency of 500kHz, but had never actually responded to an SOS message.



It was a warm sunny April evening and I was bored, tuning across the SSB frequencies (yes, SSB frequencies, I must have been bored). My shack at that time was in the garage and I had insulated the floors, walls and roof to make it warmer in the winter. At that time my wife had no sympathy for me and I was banned from the house. Today, with my two girls having flown the nest, she has sympathy for my old age and aching bones and has reluctantly allowed me to operate from one of my daughters' empty bedrooms.

I digress.....

As a CW operator, your ears and brain are subconsciously tuned to Morse code. I was listening for SSB stations, but in the background, behind the SSB, I could hear SOS. I quickly switched my receiver to CW and clearly made out the SOS message being sent. The Morse was automated, i.e. being sent perfectly by a machine, and continuously repeated.

"This is the International Coastguard at Falmouth, I understand you reported an SOS....."

Having written the bearings down on a piece of paper I ran down the garden to the house to use the telephone. I dialled 999 and asked for the coastguard. The Thames coastguard at Frinton answered my call. I told them who I was, what I had heard and the frequency; he verified the coordinates with me and thanked me for reporting the incident. I then contacted two local amateurs, Terence, G3GLL, and Dick, G3YAJ, and asked them to listen out on the frequency. Five minutes passed and the telephone rang again, "This is the International Coastguard at Falmouth, I understand you reported an SOS....." I then had to repeat my story and the coordinates again. This was followed by "we will investigate the incident." Running back to the shack, I checked the coordinates on my wall map and they told me the bearings were somewhere in Canada!

Then the SOS stopped.

Another 5-10 minutes passed and my wife yelled, "phone for you." I ran back to the house and a voice like Roy Rogers (a famous cowboy, for any young persons reading this) said "This is the coastguard in Trenton, Ontario, I understand you have received an SOS message....." I then had to repeat my story again. "Well, thank you, sir, we will certainly investigate this. You have a nice day, sir." And that was that.

The following day I was inquisitive as to what the outcome was, so I telephoned the Cornwall coastguard. They had no idea, but gave me the telephone number of the Canadian coastguard centre and suggested I telephone them! So I did.

Again, Roy Rogers explained, "Good morning, sir, we have had a busy evening with the coastguard and police checking islands which are known to be inhabited. There are hundreds of islands in the Hudson Bay area, some may be inhabited which we do not know about. At this time the whole area is still completely ice-bound and there is no movement at all. I regret to say we have found nothing".

I thanked him. "You are welcome, sir, you have a nice day now." No doubt Roy Rogers then rode into the sunset on his famous horse, Trigger.

So ends the story, but my theory is as follows.....

Those sea-farers amongst you will have seen the "Man-Overboard" buoys which are secured, upside down, to the bulk head of the bridge wheel-house. In an emergency, man overboard for example, these would be thrown overboard, they right themselves and turn on a flashing light so that the ship can turn around and find the area where the man went overboard. No doubt the modern versions would take a bearing from a satellite and automatically send out a distress message?

Personally, I envisage someone doing some painting or repairs on a boat, getting ready for the spring and he removes the buoy from its bracket. Having done his painting he puts it back, turns it upside down into its bracket and the distress message stops.

But how did an SOS get on this frequency? Any ideas?

Andrew Kersey, G0IBN

Those emergency buoys are sometimes called EPIRBs (Emergency Position Indicating Radio Beacon). Current Canadian standards are:

RSS-287 — Emergency Position Indicating Radio Beacons (EPIRB), Emergency Locator Transmitters (ELT), Personal Locator Beacons (PLB), and Maritime Survivor Locator Devices (MSLD)

The document states the following:

2.2 Transmitter Frequency Configurations

The equipment shall comply with the following frequency:

***EPIRB:** 406 MHz primary transmitter with homing frequency on 121.5 MHz.*

***ELT:** 406 MHz and 121.5 MHz.*

***PLB:** 406 MHz with homing frequencies on121.5 MHz and/or 243 MHz.*

***MSLD:** 121.5 MHz, 161.975 MHz, and 162.025 MHz.*

*So, no, I don't have any idea, either, unless it was a hoax, or an accidental intermodulation product. - **Ed**.*

For sale reminder

On behalf of G3EDM estate: Ten-Tec Omni Model 563 V1 HF Transceiver with matching PSU and operator's manual. Frequency Range:160m through to10m **£350.00 (o.n.o.)**

Contact **Peter Davies, M0PSD** Tel 01268 767112, or email m0psdradio@btinternet.com

On behalf of G1EUC estate. Many items have now been sold, but a list of those still available can be found here on the Society's website: http://www.g0mwt.org.uk/society/sales.htm

Calculate a Dipole

A link to an instant dipole calculator that may interest some; it has a few related topics available: http://www.kwarc.org/ant-calc.html

And the second - nothing to do with radio, but a relative sent it to me as I have birthday coming up. Somebody has spent some time on this one: http://playback.fm/birthday-song

Colin, G0TRM

Galleywood Gathering – December 2015

Galleywood Common has seen lots of field activity in 2015, being used throughout the year by both CARS and Essex Ham. With the winter weather closing in, and it being too chilly for any serious /P activity, around 20 members of both CARS and Essex Hams gathered at the nearby Horse & Groom pub for the first Galleywood Gathering. The event was organised by Charlie M0PZT, following discussions on what to do during the winter months, and which were kicked off by

Peter, G0DZB. The event was promoted on Essex Ham's site, social media and the Monday Night Net, prompting a good turnout of amateurs from around the county.

The poor solo member of staff on duty, expecting the usual quiet Sunday afternoon was a little shocked to see 20 people descend unannounced and hold a get-together in their rather pleasant country pub.

Keep an eye out for more Galleywood Gatherings in the not too distant future!

Pete, M0PSX sent me this item after I failed to attend the event as I was a little under the weather at the time.

*It's a pity, as I was looking forward to going along. I'll definitely look to be going along to the next one - **Ed.***

CARS Christmas Interest/Nostalgia Quiz - 2015

John, G8DET brought along a range of old components and equipment that he invited members to identify and reminisce over. These brought about a range of comments and anecdotes and promoted a lot of discussion. (*Many of the items that John brought along were familiar to me and I even knew the names of some; a trip down memory lane and a bit of a history lesson all rolled into one - Ed)*. Here is John's description of the list of parts he showed:

1 - Point contact diodes - "cat's whisker" (thanks to G4YTG) 1930s to 1960s

2 - Germanium point contact diodes - mid 1950s to mid 1960s

3 - CV7038 low power germanium diode - 2BA & 3BA terminals so cannot be reversed; silver plated.

4 - I call it a radar diode. Used by G8DET in 1950 as a crystal set detector

5 - Heat sink for an OC72 series transistor.

6 - ASY29 - Germanium NPN Low Power Transistor 15V 10MHz - modern?

7 - Extra high voltage TV stick rectifier - 1962 (ish)

8 - Black & red ended signal diode - Westinghouse WX6 Westector - 1938 (ish)

9 - Silicon rectifiers

10 - Large reed relay insert - one blade steel, other gold spattered to reduce welding (1960)s

11 - Newmarket gold NKT 205a germanium RF transistor 1960s - £1 to £2

12 - Matched pair OC72s bought JHB June 1958 for £3.00

13 - Pye 956 - red germanium RF transistor - 1956-7.

14 - Matched pair - new package GEC GET 16s - 1958/9. The internet only refers to the later GET116s

15 - STC TK41C - PNP germanium alloy transistor - AF amp/switching.1958.

Came out of a "Signal Transmission Reception And Distribution" (STRAD) wired programme telegraph switching system made by STC for the MOD. Cost £millions.

https://donaldwynndavies.wordpress.com/canadian-army-project-1961-62/

A STRAD Installation in Canada. This one was installed in 1964, was decommissioned in 1981 and passed 64 million messages.

16 - 13 Amp Plugs - the green version is illegal because it does not have shrouded pins.

17 - Diode transistor logic (DTL) strip - week 33, 1988. Pair of J-K flip flops

18 - 10 x crystal bank from a Pye police rig - 1960s

19 - BNC connector with microwave (Type 18?) outputs

20 - You tell me...
21 - Ediswan 103 - germanium junction PNP (H_{fe} 45 - 100). 1958 - "Top Hat"
22 - 4 lead Mullard OC170/171 VHF germanium transistor from the early 1960s. Unused examples can suffer from "tin whiskers" which are 1/200th dia. of a human hair.
23 - Mullard OC480 silicon transistor with a Vce of 125 Volts so used to switch relays.
24 - GEC GET571 - 1958/9 power transistor
25 - "Sixty 6", SS215SG, screened grid triode 1925 - 1945. Reject PM4 by Mullard!
26 - HL210 Mullard triode 1927.
27 - Marconi PEN220 - 1928
28 - Marconi patch coaxial patch cord and sockets
29 - Silicon Rectifier - cannot take transients on its own - 5 terminal device?
29A - Selenium rectifier - tolerate transients, but makes a terrible smell when failing.
30 - Relay with a hole in the bottom - to manually operate with a safety pin.
31 - Single sided, single density 8" floppy disk - about 128kByte. 1977.
32 - Carbon rod - centre (anode) from a 1920s primary cell.
33 - Aerial change over relay
34 - Reed relay
35 - Aerial C/O relay from a Pye Cambridge - 1960s. Pye code 951.
36 - Power resistors
37 - Ferrite cored coil from, a 1960s TV
38 - Mains spike suppressor capacitor.
39 - EL84 power pentode from a Mullard 5-10 Hi Fi amp. One CARS member had built over 300. Superb quality sound.
40 - Resistors (all colour coded gold)
1 Carbon 150Ohm (now reads 160)
2 Carbon 680Ohm (now reads 720)
3 Carbon 2.2kOhm (now reads 2.21)
4 Spiral Cut Carbon 1.1kOhm (now reads 1.110k)
5 Metal Oxide 4.7kOhm (now reads 4.81k)

On another sheet of transistors was CV2389 transistor in an unopened plastic package. This was the first CV coded transistor for the British Post Office Telephones (BPOT) in 1956, equivalent to a CTX2. The BPOT specification had a H_{fe} minimum of 350kHz, but no upper frequency limit, which was wrong. This, and poor oscilloscopes, virtually put paid to their initial electronic exchange development work.

I hope the above rekindled memories at Christmas time.

John, G8DET

Lecture Circuit

Ron Cowley, 89 years of age, was stopped by the police around 2 a.m. and was asked where he was going at that time of night.

Ron replied, "I'm on my way to a lecture about alcohol abuse and the effects it has on the human body, as well as smoking and staying out late."

The officer asked, "Really? And who's giving that lecture at this time of night?"

Ron replied, "That would be my wife."

From the Marconi Old Fellows website (Aus) - **John, G8DET**